

## **REMARKS/ARGUMENTS**

This is a full and timely response to the Office action mailed July 31, 2007. Reexamination and reconsideration in view of the foregoing amendments and following remarks is respectfully solicited.

Claims 1-5, 7-25, and 27-30 are pending in this application with claims 1, 10, 15, and 27 being independent claims. Claims 1-4, 8, 10, 15, 27, and 29 have been amended. Claims 5-7, 24-26, and 31-48 are cancelled. Applicants thank the Examiner for finding allowable subject matter in claims 8 and 27-30. No new matter is believed to have been added.

### **Rejections Under 35 U.S.C. § 112, First Paragraph**

Claims 1-4, 8-23 and 27-30 are rejected as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleges that the specification does not provide support for the electrolyte not including aluminium. Although Applicants disagree with the Examiner, Applicants have amended the independent claims to remove the limitation that the electrolyte not include aluminium, in order to expedite prosecution of this case. Consequently, the rejections under 35 U.S.C. § 112 should be withdrawn.

### **Rejections Under 35 U.S.C. § 103(a)**

Claims 1-4 and 9-12 are rejected as being unpatentable over U.S. Patent No. 6,974,636 to Darolia et al. (“Darolia”). These rejections are respectfully traversed.

Claim 1 has been amended to recite, *inter alia*, providing a substrate, electrolytically depositing a metal layer on a surface of the substrate, and aluminizing the metal layer of the substrate. Claim 10 has also been amended and now recites, *inter alia*, electroplating platinum metal on a substrate, concurrently with electroplating, depositing particles on the substrate, and aluminizing a layer comprising platinum and the particles of the supplementary constituent.

Darolia teaches a protective coating for a turbine engine component that is formed by electroplating at least two platinum group metals. See Abstract. However, Darolia does not teach the step of aluminizing. As acknowledged on page 9 of the Office action, Darolia “teaches away from subsequent aluminizing.” Accordingly, as Darolia fails to teach each and every element of claims 1 and 10, and hence, the claims that depend therefrom (e.g., claims 2-4, 9, 11, and 12), the Applicants respectfully request withdrawal of these rejections.

Claims 13 and 14 are rejected as being unpatentable over Darolia in view of U.S. Patent No. 6,306,277 to Strangman (“Strangman”). These rejections are respectfully traversed.

First, claims 13 and 14 depend from claim 1. Thus, these claims rely on the arguments presented above as they relate to Darolia. Namely, Darolia does not teach an aluminizing step.

Second, there is no motivation to combine Strangman with Darolia. Although Strangman discloses a process for electrolytically plating platinum, the reference also teaches aluminizing the plated platinum. See col. 3, lines 28-38. As noted above, Darolia teaches away from subsequent aluminizing. Therefore, it would not have been obvious to one skilled in the art to combine the teachings of Darolia with the teachings of Strangman.

Moreover, Strangman does not make up for the deficiencies of Darolia. In particular, Strangman teaches an electrolyte for use in electrolytic platinum plating; however, it does not teach electrolytically depositing a metal layer on a surface of a substrate, wherein the metal layer comprises platinum and a supplementary constituent, the supplementary constituent comprising particles selected from the group consisting of Cr, Si, Zr, and alloys thereof, wherein said metal layer is deposited from a single electrolyte composition during a single electrolytic step, wherein the electrolyte composition comprises a platinum salt and particles of the supplementary constituent having a mean particle diameter ranging between 1 micron and 10 microns and the particles do not include aluminum. Thus, as there is no motivation to combine Strangman and Darolia, and even if there was, neither Strangman nor Darolia, either alone or in combination,

teaches or suggests the features recited in the independent claims, the Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn.

Claims 15-19, 22, and 23 are rejected as allegedly being unpatentable over U.S. Patent No. 6,183,888 to Alperine et al. (“Alperine”) in view of U.S. Patent No. 4,810,334 to Honey et al. (“Honey”). These rejections are respectfully traversed.

Independent claim 15 has been amended and now recites, *inter alia*, electroplating a metal layer on a surface of said substrate from an electrolytic bath comprising a platinum salt electrolyte and particles of at least one supplemental constituent having a mean particle diameter ranging between 1 micron and 10 microns, wherein said electroplated metal layer comprises platinum metal and particles of the at least one supplementary constituent and at least one reactive element entrapped within said platinum metal, wherein said particles do not include aluminium and at least one supplementary constituent comprises particles selected from the group consisting of Cr, Si, Zr, and alloys thereof and the at least one reactive element is selected from the group consisting of Y, Hf, La, Sc, Ta, and Re, depositing aluminum on the electroplated metal layer, and forming a platinum aluminide coating on the substrate, wherein said platinum aluminide coating comprises the at least one supplementary constituent and at least one reactive element.

Alperine discloses a process for producing a coating for protecting superalloy articles against high temperature oxidation and hot corrosion that comprises forming, on the surface of the article, a first deposit of an agglomerated powdered alloy containing at least chromium, aluminum and an active element, and filling the open pores of the powder deposit by a second, electrolytically applied, deposit of a precious platinum group metal. See Abstract. Honey teaches a method of producing an overlay coating which comprises plating a protection layer comprising a metal matrix containing particles of CrAlM<sub>2</sub> and plating an anchoring layer comprising a metal layer containing larger particles and spray coating a thermal barrier of a refractory material. See Abstract.

In contrast to Alperine and Honey, claim 15 recites electroplating a metal layer on a surface of said substrate from an electrolytic bath comprising a platinum salt electrolyte and particles of at least one supplemental constituent having a mean particle diameter ranging between 1 micron and 10 microns, wherein the particles do not include aluminium and at least one supplementary constituent comprises particles selected from the group consisting of Cr, Si, Zr, and alloys thereof and the at least one reactive element is selected from the group consisting of Y, Hf, La, Sc, Ta, and Re. Moreover, neither Alperine nor Honey teaches depositing aluminum on the electroplated metal layer (which includes platinum and the supplemental constituent).

Thus, as the cited prior art fails to teach or suggest the features recited in the independent claims, the Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn.

#### Support for Claim Amendments

As noted above, claims 1, 10, and 15 have been amended to incorporate an aluminizing step. Support for these amendments appear at least in original claim 8, FIG. 3, and paragraphs [0011], [0012], [0033], [0047], [0060], [0064], and [0072]. No new matter is believed to have been added.

#### Conclusion

In view of Applicants' amendments and remarks, it is respectfully submitted that Examiner's objections and rejections have been overcome. Accordingly, Applicants respectfully submit that the application is now in condition for allowance, and such allowance is therefore earnestly requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the Applicants attorneys at the below-listed telephone number.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: October 8, 2007

By: /CINDY H. KWACALA, REG. NO. 47667/  
Cindy H. Kwacala  
(480) 385-5060